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The Study of Productive Landscape in Wetland Park Design

Yan Feng
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China

Xianzhu Zheng
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China

Xiaoyu Ming
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China

Panpan Cao
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China

Jie Du
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China

Yufan Ding
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China

Xiaofang Yu*
College of Landscape Architecture
Sichuan Agricultural University
Chengdu, China
*Corresponding Author

***Abstract*—With the acceleration of the process of urban construction and development, the contradiction between man and nature has intensified, the ecological balance has been broken, and the ecological chain has been interrupted. In recent years, in order to improve the living environment, people have rationally utilized land resources and created a productive landscape. The productive landscape is back to the original, and savors the natural, and the wetland park is an organic combination of ecological wetland and urban park, with strong ecological functions. In order to exert greater ecological benefits for the city, the productive landscape will be introduced into the planning and design of the wetland park. This paper starts from the definition of the concept of productive landscape, and analyzes the domestic and international production landscape and the case of the wetland park. Thoughts on the design practice of wetland parks and theoretical references for the future planning and design of Wetland Parks.**

Keywords—productive landscape; wetland park; planning and design

I. INTRODUCTION

With the development of society and the improvement of people's ecological awareness, residents demand higher quality of life and quality, and require the creation of a harmonious and beautiful ecological environment. The increasing population density also puts higher demands on the use of land resources. This paper combines productive landscape with wetland parks, uses productive landscapes according to local conditions, and improves ecological environment while improving land use efficiency. The planning of productive wetland parks should be considered from various aspects such as ecology, tourism, agricultural industry and tourism to protect the wetland and resources for sustainable use. In order to improve economic efficiency, it is necessary to promote tourism, explore local themes, and maintain the original appearance. This paper takes ecological civilization as a guide and proposes a creative application method for productive landscape for planning and design — building an energy cycle system with multiple productive landscapes, maximize the use of productive landscape output and minimize resource consumption in wetland parks.

II. OVERVIEW OF PRODUCTIVE LANDSCAPE

A. The Definition of Productive Landscape

The productive landscape is the place of the production process or the remains of the production process. It is naturally functional and practical value oriented. It comes from life and production labor, integrates production labor

and labor results, and includes human-to-natural production transformation (such as agricultural production) and natural resource reprocessing (industrial production), it is a landscape that has life, culture, long-term inheritance, and obvious material output [1]. Urban parks, green open spaces, or any space in uncertain use in the city (empty spaces, old houses, etc., which are placed on the ground by urbanization) may become productive landscapes, a green engine that provides resources (energy, recycling rain, seasonal ecological food) to residents of the surrounding community, and maintained through the spontaneous organization process of the community [2]. Productive landscapes are rich in diverse forms, such as plantation production, agricultural production, fishery production and industrial production, and energy production [3].

The productive landscape must be ecologically beautiful, because it is given the least amount of human intervention, and the productive landscape also has the beauty of education, it shows us the process of life continuation, and seeks the poetry of the pastoral habitat. In addition to the recreational and environmental improvement functions of the general urban green space, the production landscape also provides the supply of agricultural products, increases the interaction between people and venues, and strengthens the local characteristics of the landscape [4].

B. The Types of Productive Landscape

The productive landscape is not only rich in the output of agricultural and sideline products, but also the output of ecology and various natural energy sources. According to the type of substance produced, it can be roughly divided into two categories: The type of Agricultural production, the type of energy production:

1) Agricultural productive landscape: The agricultural landscape formed by farming, forestry, animal husbandry and fisheries is a productive landscape that we usually understand, It is the largest cultural landscape created by mankind, it carries the agricultural culture that has been accumulated by agricultural production for a long time. The agricultural landscape echoes the schedule of agricultural production and presents different views with the change of seasons. It uses this special expression to show people the whole process of crop life. Especially in the spring ploughing and autumn harvest seasons, this kind of productive landscape can directly show the harmonious beauty of natural ecology and artificial labor. As an important part of the productive landscape, the agricultural landscape mainly includes four types: rice field landscape, vegetable plot landscape, orchard landscape and woodland landscape.

2) Energy productive landscape: This kind of landscape reflects its productivity by indirectly creating green energy to serve people. As people's attention has deepened, facilities such as street lamps and traffic lights that use wind and solar energy are gradually appearing in cities. The output of green clean energy can not only effectively use natural resources, but also meet the needs of the landscape itself and even the local energy. Recycling of rainwater resources to urban landscape construction is a category of productive landscapes for natural resources reprocessing. Whether it is a rainwater purification system or a windmill or solar panel for power generation, they are not simply devices, but a productive landscape with distinctive outputs in the city. Energy is the material basis for human survival, and it is the fundamental driving force for the development of the whole world and economic growth. Therefore, the productivity of such landscapes is of more significance.

C. The Value of Productive Landscape

1) The value of participation in interaction: Nowadays, in most urban landscape designs, creating a good view can only allow people to enjoy the experience unilaterally and not interact with it. In the productive landscape, most of the plants are crops, and people have the possibility to participate. Labor for the purpose of entertainment is a way of entertainment that allows people to relax physically and mentally.Adding productive landscapes to urban landscape design, providing citizens with the conditions for agricultural work, allowing citizens to experience the true feelings of agricultural production, participating in beautifying cities, experiencing farming work, and enriching amateur life.

2) The value of natural ecology: In the cities with modern industrial development, industrial civilization has come to an end. The deteriorating natural environment has not been allowed to be ruined. Developing ecological civilization is an effective way for sustainable urban development. Most of the conditions for the existence of productive landscapes depend on nature and can be seen as part of the natural cycle, a sustainable growth process. Crops are produced from productive landscapes and become part of the food chain, creating habitat and breeding conditions for birds and insects, thereby increasing biodiversity in urban landscapes. Such a city is richer in scenery, and it is vital and energetic, and at the same time it brings people closer to nature.

3) The value of entertainment education: As people participate in the work of crops, it is also a form of entertainment that allows the body to exercise and develop the coordination ability of various parts of the body. The productive landscape not only has the elements of crops, but also related agricultural tools, Children living in cities rarely get in touch with them. Children can experience in labor, bring practical experience to the growth process, and help healthy growth.

4) The value of landscape: The growth of crops is an obvious dynamic process. From the perspective of crops, the seedlings are constantly rising, and the density of crops and leaves is also changing, which affects the spatial variation of the region. When it is still seedlings, the space between crops and crops is large, giving people a wide feeling and

vision in a certain space. As the crops grow, the space becomes more layered and the landscape is richer. With the development of the growth cycle, the color of crops has also changed. From tender green to dark green to golden yellow, the evolution of crops shows the passage of time and the changes of the season, giving the urban landscape a new vision.

5) Additional economic value: Since the 1980s, China's urban construction has begun to repeat the "urban beautification movement" that occurred hundreds of years ago in Europe, The construction is just a landscape and a large square that meets the visual effects. The plants planted are lawns and trees that are not close to people, Applying productive landscapes to cities, in addition to the maintenance of professional staff, the landscape can be maintained through the participation of community residents, which greatly reduces costs.

III. OVERVIEW OF WETLAND PARK

A. The Definition of Wetland

Wetlands combine the basic attributes of both land and water ecosystems, with special habitats and diverse species, and are among the most productive ecosystems on the planet. The wetland emphasizes the simultaneous existence of three elements of hydrology, soil and wetland vegetation, and the water depth generally does not exceed 2m. Wet or aquatic vegetation, infiltrated by surface water or groundwater, has obvious bioaccumulation and submerged characteristics. Wetland is an environment conducive to the growth and reproduction of aquatic plants. Its surface is often covered with water or filled with water all the year round. It is a transition zone between land and water [5]

B. The Meaning of Wetland park

As an organic combination of ecological wetlands and urban parks, Wetland Park has the ecological functions of wetlands and protects them, as well as the tourism function of providing science education for human beings.

The Ministry of Construction pointed out in the National Urban Wetland Park Management Measures that the National Urban Wetland Park should have the following conditions [6]:

- It can be used for people to watch, touring, to carry out science education and conduct scientific and cultural activities, and has high protection, appreciation, culture and scientific value;
- It is included in the urban green space system planning;
- It requires an area of 500 33.33 hm^2 to be used as a park;
- It has a natural wetland type, or has a certain influence and representativeness.

The *Construction Regulation of National Wetland Park* [7] issued by the State Forestry Administration proposes the concept of a national wetland park:

The area of the National Wetland Park should be above 20 hm^2; the wetland area in the National Wetland Park should generally account for more than 60% of the total area; the construction facilities, human landscape and overall style of the National Wetland Park should be coordinated with the wetland landscape and the surrounding natural environment. The wetland ecosystem in the National Wetland Park should be representative of it, and it can be a natural wetland or constructed wetland affected by human activities.

In summary, the wetland park is neither a nature reserve nor a city park of general significance. It is a wetland landscape area that combines species and habitat protection, ecotourism and ecological education functions, it is a complex that embodies "use in protection and protect in use". Wetland parks should maintain a special natural ecosystem in the region and approach the natural landscape state to maintain the ecological balance and coordinated population development of different animal and plant species within the system, and build different types of auxiliary facilities on the basis of not destroying the natural habitat of the wetland. Combine the functions of ecological protection, eco-tourism and eco-environmental education, highlighting the three characteristics of theme, nature and ecology, It is a multi-functional ecological theme park integrating ecological protection, ecological sightseeing and leisure, ecological science education and wetland research [8].

IV. THE CHARACTERISTICS OF WETLAND PARKS

From the concept of the wetland park, it can be concluded that it should have the following characteristics: First, the wetland landscape in the park dominates; second, the wetland ecosystem have a certain scale. The wetland ecological process is better, the ecological characteristics are obvious, or the wetland habitat is damaged to a certain extent, but the conditions for wetland ecological restoration are met; third, it has special functions such as species and habitat protection, ecotourism and ecological education.

A. Ecological Characteristics of Wetland Parks

1) Affected by human interference: Wetland Park is a recreational environment with some artificial participation in the construction of natural wetlands. It is subject to more human disturbances than pure natural wetlands, which has a certain negative impact on the site and moderately improves the original defects of the environment. On the one hand, in order to meet the needs of ecotourism and education, the wetland distribution is relatively uneven during the construction process, the patch area is small and the connection degree is low, the ecological sensitivity is high and the system is relatively fragile; Unreasonable structural construction; weak self-regulation and purification, requiring manual adjustment. On the other hand, in the construction of the park, artificially adjust the internal ecological environment of the site to repair the damaged

habitat, such as adopting artificial soil ripening to improve the soil, reduce the water passing rate, and introduce suitable species.

2) Large spatial heterogeneity and high biodiversity: Because of the more human disturbance, compared with the natural wetland protection area, the wetland in the smaller wetland park is unevenly distributed, and the heterogeneity of the habitat is very high. In order to meet the functions of viewing and recreation, wetland parks generally create various types of wetland landscapes, such as tundra wetland landscape, shrub wetland landscape, forest wetland landscape, etc., which make the wetland park a wide variety of plants and animals.

3) Ecological instability: Wetland ecosystems exist between wet and terrestrial habitats, which are inherently unstable and fragile. In the plant configuration, the wetland park generally chooses one or several plants with good landscape benefits as the dominant species, but when the living conditions decline, the artificially designed plant community structure is easily degraded by weed invasion.

B. Spatial Characteristics of Wetland Park

1) More homogeneous space: The number of buildings in the wetland park is small, and the scale of the building is small, mostly natural wetland landscape. The spatial composition is generally based on natural water surface, river bank line and plant community, and the spatial form is relatively homogeneous.

2) Less vertical change: The location of the wetland is an excessive zone from the land to the waters, so the terrain of most wetland parks is relatively flat and high. The buildings in the park are relatively small and scattered, and the water area is large and open, so the skyline is flat.

3) High fragmentation of plaque: The characteristics of the semi-terrestrial and semi-surface of the wetland, the waters and the land are interlaced, making the waterline in the area especially tortuous, the number of islands is large, and the plaque fragmentation is much higher than other types of parks.

V. CASE STUDY OF PRODUCTIVE LANDSCAPE

A. Chicago North Grant Park

The North Grant Park, known as the art of field, is a symbol of cultural symbols and an image of the natural cycle of urban landscapes. In the planning and design of the park, the corn field is the main body, and as a landscape, it is also a cyclical agricultural production process. Due to the different crops in each season, the art exhibitions, viewings and gatherings in the park change with the crop season. Every time plant and harvest the art fields of North Grant Park, it is a moment of new vitality for Chicago [9]. It is a great event for the people of Chicago and will be the best place to witness the development of the city (see “Fig. 1”).

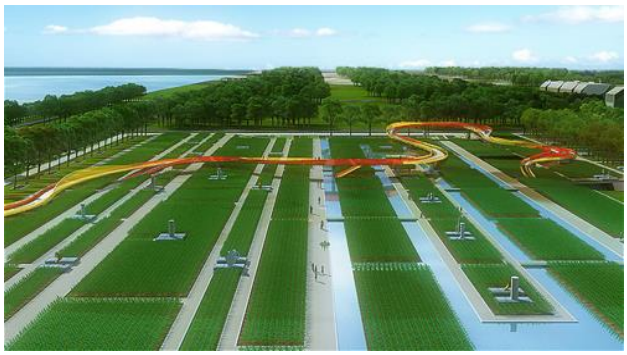

Fig. 1. Renderings.

B. Program Positioning and Overall Layout

The North Grant Park design is positioned to create the best venue for people to communicate and culturally blend, and to create productive landscapes. It consists of a variety of elements, including art boxes, overhead walks, various landscape viewing platforms and wetlands, as well as production elements such as orchards, farmland, and vegetable gardens. In the overall layout, North Grant Park will be divided into three sections, including the Art Field, the Garden of Cancer Survivors, and the Chicago Wetlands, which are separated by linear planting trees and connected by viaducts (see “Fig. 2”).The road runs through the productive landscape of the park, and the path in the crop provides a good space for people to communicate and gather: The Art Field is the largest in the three regions. On the west side of the project area, the main body is cornfield, a vegetable garden at the southern end, a plurality of orchards at the western end, and a museum and playground at the north end: The garden of the cancer survivor is the place where the original site is located, connected to the art field; Located in a low-lying area on the east side of the entire project area, the Chicago Wetland is an ideal rainwater harvesting area that is a protective wetland that is a buffer purification area for parks and surrounding lakesides that people cannot access. Through the elevated walkways and viewing platforms, visitors can walk and watch to maintain their original natural ecological status.

Fig. 2. Park floor plan.

C. Design Strategy

The project area is planned and designed as a complex system. It is necessary to consider the feasibility of the project, the actual functional wishes and the development of the site. In order to maximize the value of the North Grant Park in Chicago after the construction of the city and the living environment, the park will be constructed from the following five design strategies.

1) Agricultural and adaptive landscape: In the project area, the cultural totem is implanted by adopting a planning method that is efficient and low-cost for crops, which makes the whole space flexible and reduces the maintenance cost. Emphasize the natural environment of the park's natural environment and biology, rebuild the good relationship between the city and the land, create an adaptive landscape with great development potential, and increase the appeal to Chicago residents and foreign tourists (see "Fig. 3").

Fig. 3. Renderings.

2) Rainwater collecting: Introducing the process of rainwater harvesting into the landscape, the water can be regenerated and used on the active path of the site, providing a clean and interactive place for people crossing the site. The entire water system is divided into four parts: the central water channel, the blasting cloth, the wetland pond and the stream with purification function.The wetland area is a low-lying area connected to Lake Michigan. Through the collection of rainwater, a wetland landscape area at the edge of the city is formed. The rainwater is purified by plants before flowing into nearby Lake Michigan. The rainwater that enters the park from the city passes through the canal in the art of field to the wetland pond in the wetland area, and is itself a natural filtration system that purifies the water resources.

3) Geometric texture: In the art of field, the axis is fully emphasized and integrated into the environment around the park, while using a variety of elements to construct a geometric pattern in response to Chicago's architectural heritage. The layout of the park adopts a simple rectangular geometric texture. Each space is connected by a bridge. The corn crop is the main element of the block divided by the geometric road, and its height varies with the periodicity of growth. It provides an open space with seasonal variations for a variety of activities.

4) High altitude trail: The high-altitude trail in the art field is a sturdy overhead bridge that cleverly cuts through the geometric patterns of the farmland and eventually falls on the lake, forming a three-dimensional landscape that enhances the connection between the art field and the surrounding environment. The stepped slope of the high-altitude walkway connects the space of the entire art field, while the serpentine footbridge connected to the Millennium Park by the square is placed.

5) Art show: In the city of Chicago, art influences the development of the city in many ways, Interpreting art as a process of natural circulation, on the basis of which planning and design, turning cornfields into an art exhibition, Local residents, foreign tourists and artists will be attracted by the beautiful landscape, and people will communicate and interact in the exhibition space, which will give the park a feeling of continuous surprise experience.

VI. CASE STUDY OF WETLAND ECOLOGICAL AGRICULTURE — SUZHOU CHENGHU ECOLOGICAL AGRICULTURE TOURISM PARK

A. Project Overview and Base Status

Wuzhong District, Suzhou City, Jiangsu Province, in order to promote the development of ecological agriculture in Luzhi Town, and to improve the environment and developing tourism. They decided to establish Suzhou Chenghu Ecological Agriculture Tourism Park. The town of Luzhi has long been praised as "the first town of Water Town". Luzhi Town has obvious advantages, superior geographical position, rich human history and excellent ecological environment. It can be called the famous historical town of Chinese culture [10].

The project is built in the Chefang area of Luzhi Town, with a total area of about 19km^2. The base is adjacent to Chenghu and the lakeside scenery is pleasant. The main planned land is flat, mainly composed of fish ponds, river nets, woodland, farmland, roads, temples, houses, etc. Among them, fish ponds and river nets have the largest area, and farmland uses obvious wetland characteristics, mainly planting wetland plants such as "Water Eight Immortals".

B. Planning Concept

The planning of Suzhou Chenghu Ecological Agriculture Sightseeing Park is based on the premise of protecting and improving the wetland environment. With the theme of spiritual origin, the folk life culture with "water", "agriculture" and "fishing" as the main body is selected, and the production of characteristic agricultural products is gradually formed. Ecological agriculture complex integrating processing, sales and ecological agriculture sightseeing. The concept of "ecological construction park, science and technology to build, culture as the soul, characteristics as priority, and benefit as the foundation" ("Fig. 4").

Fig. 4. Renderings.

C. Zoning Plan

According to the actual environment of the wetland, the whole project is divided into seven districts (see "Fig. 5"). Integrated Service Area: It has the functions of comprehensive service and tourism transportation distribution. Modern agricultural display area: mainly based on scientific and technological agriculture, fruit and vegetable harvesting, Using high-tech agriculture to display modern planting and cultivation techniques, fruit and vegetable picking gardens carry out characteristic production, combining economy and tourism. "Water Eight Immortals" planting area: planting is the characteristic of the region, making full use of the planting methods of water plants to create a wetland country tour. Fisherman's Style Zone: With the theme of "fishing", visitors can experience the life of fishermen, taste the fish dishes and experience the fun of fishermen. Religious and cultural area: Let tourists experience religious culture, plant plants related to Buddhism, emphasize participation, knowledge, mystery, and render religious atmosphere. Water Forest Tour Area: Make full use of the original waters, aquatic and wet plants to create a meaningful water space for visitors to enjoy the water activities and enjoy the water forest. Greenwood Nest: Based on ecological principles, it creates conditions that are conducive to bird habitation and reproduction, protecting and attracting beneficial birds. The concept of harmony between birds and human beings is emphasized, creating a beautiful natural environment with birds and flowers.

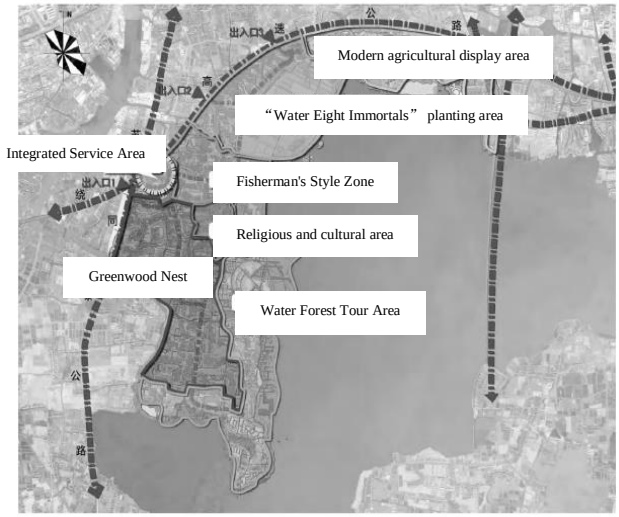

Fig. 5. Floor plan.

VII. Case Study Revelation — Combination of Production Landscape and Wetland Park

A. Landscape as a Place of Identity

The introduction of productive landscapes in wetland parks evokes the connection between people and the land, and the respect for land in the farming era. In the wetland park, the residents and their regional heritage are connected in a close and meaningful way, so that the overall impression of the park is sublimated. The design of various elements gives the venue more experience, creating unexpected connections, art and agriculture, viewing and bird watching, agricultural landscapes and wetland landscapes, productive agriculture and community culture. These daily behaviors cause people to think about roles in the city and the environment, allowing visitors to better appreciate the heritage they inherit.

The landscape is based on cultural heritage, making it a complete image that spans time and symbolizes urban identity. Communicate the history of the city and attract people in the city in a more meaningful way. In the project area, the original historical axis and historical environment can not disappear, the existing waters should not be changed as much as possible, improve the self-purification and capacity of the water body, and appropriately modify the cultivated land, fish ponds and forest land. Under the background of environmental issues and the requirements of ecological civilization construction, the construction of the park requires sustainable design of various scales in the project area, and develops a series of water environmental protection measures, it mainly includes microbial enhanced ecological restoration, artificial wetland ecological floating island, ecological revetment of lakeside zone, restoration and reconstruction of aquatic animals and plants, etc. The construction of the park should cause local residents to think, improve their awareness of environmental protection, and make them better appreciate and tour.

B. Landscape as Space and Experience

People pay more and more attention to wetland protection and wetland utilization. Wetland parks with productive landscapes are highly connotative composite industries. The maintenance of wetland system ecological balance, protection of wetland functions and biodiversity, and sustainable use of resources should be taken as the starting point to make the landscape environment beautiful, the ecosystem healthy, and the agricultural production increase. The landscape changes with the change of seasons. The harvest of crops makes the passage of time concrete. The observation activities are very important for people's experience in the productive landscape. The seasons of ornamental crops change, and the crops are planted and harvested. Also remind people of the cycle of agriculture.

The productive landscape area should be separated from the natural wetland. With other landscape transitions, people can experience and participate in the productive landscape more deeply. At the same time, the natural wetland can be better protected and form a high-quality wetland landscape to attract more wetland plants and creatures. Adding a complex productive landscape combining aquatic plant cultivation and aquaculture and animal husbandry, making full use of water environment resources, visitors can also enjoy recreational fishing in addition to the aquatic production landscape between fish and lotus leaves. In the wetland park, without human intervention, the organism can grow and reproduce freely. This area uses plant vegetation, uses native wetland plant species, and selects plants with certain purification functions. It can make the space versatile and use the landscape language formed by elements such as trails, wetland landscapes and crop plazas to entangle sustainability, nature, history and art.

VIII. PRODUCTION WETLAND PARK SPACE CREATION

The productive landscape is most common in farmland-based wetland parks, namely farmland-type wetland parks, which are types of wetland parks where the original natural base is farmland (mainly paddy fields), fish ponds, and crab ponds. This type is more in the Jiangnan area in the middle and lower reaches of the Yangtze River. The water network in this area is developed and the groundwater level is high, which is suitable for rice planting and aquatic product breeding. Therefore, it also has the unique advantages of building a wetland park.

A. Spatial Characteristics

- Wetland base water network is developed, often forming rivers, lakes, rivers, harbors and other different forms of water surface. Due to the high groundwater level, the surface water is rich, the land-water ratio of farmland-type wetlands is higher, generally above 1:1.
- Because the water network is densely covered, the spatial fragmentation and porosity are high, which is very close to the ideal wetland spatial form, the wetlands were mostly artificial fish ponds and crab ponds. The shoreline shape was stiff and rigid, and there was no shallow water area suitable for the growth of wetland plants. Therefore, vertical transformation was needed to form a gentle slope on the water and underwater.
- Because most of the site is farmland and fish ponds, the vegetation type is single, lacking diverse landscape elements, spatial homogeneity and monotony, vertical change and spatial gradient change less. At the same time, the ecological pattern is imperfect, lacking the habitat environment necessary for the habitat of various waterfowl and amphibians, and lack of isolation and buffering from villages and cities, which is not conducive to the construction of conservation and ecological protection areas.
- Due to the accumulation of long-term human factors, historical relics and remains are preserved in the base. The wetland space construction should be utilized to form a wetland landscape space with regional characteristics.

B. Building Strategy

1) Preserving site texture: The spatial texture of the farmland and fish pond network inside the site witnessed the history of the site, preserved the traces of artificial activities, and the memory of the space containing the wetland space. At the same time, this spatial texture is full of earth art sense of form. Preserving the original site texture and the geographical characteristics of the wetland, which is consistent with the natural and human environment in the adaptation of the site environment. This construction method is necessarily the most economical and ecological.

2) Improving the spatial pattern: Wetland vegetation communities with good wetland environments are properly planned and designated as protected areas through appropriate “human intervention”. After accelerating the process of self-repair of wetlands, areas with original wetland landscapes are formed after a certain number of years.

3) Mining local theme: The local culture theme should be fully explored to enrich the wetland recreation activities and landscape space. The folk culture zone can be specially opened to preserve and display the local culture and folk customs. It can also expand some residential buildings to form a wetland space with local culture atmosphere.

4) Adjusting the water network shoreline: The large number of rivers in the wetland are often blocked by long-term silt, which is often prone to danger during summer floods, and the landscape is not effective. Therefore, in the planning and design of such wetlands, the water network channel should be firstly dredged and communicated, and the shoreline should be adjusted to ensure the safety of the flood peak water flow and meet the visual aesthetics of the wetland space. It is necessary to maintain the ecological

functions of wetlands, such as accelerating water circulation and reducing pollution sources [11].

C. Constructing the Material Energy Cycle of Productive Landscape in Wetlands

The main producers of productive landscape enter into the same energy flow cycle through human intervention, so that their surplus products at each level can provide material energy for the production of lower levels, ensure the rational distribution of resources, and recycle. Excess material energy can also be selectively involved in the energy flow of the wetland ecosystem through human intervention, supplemented when the wetland ecosystem material energy is insufficient, and digested in excess energy. In this paper, four material energy cycles are constructed for the productive landscape. The material energy flow of the productive landscape system and the wetland is indicated by the dotted line, which is independent of the productive landscape material energy. (see "Fig. 6")

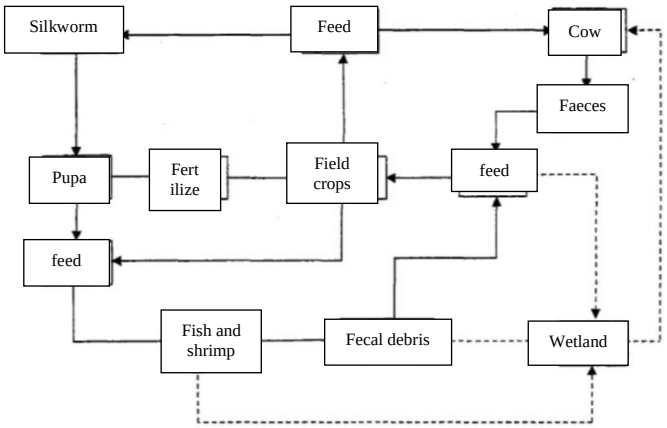

Fig. 6. Productive landscape material and energy recycling system.

IX. FUTURE PROSPECTS

The theory of productive landscape involves a comprehensive content of multidisciplinary intersections, and its development needs to be further tested and improved in practice. This paper attempts to introduce productive landscape into the planning and construction of wetland parks, and proposes the planning strategy of productive wetland parks from the perspective of overall planning. The research on wetland landscape planning and design is mainly carried out in the context of modern agricultural parks, aiming at the guiding significance of future wetland landscape planning and design research. However, the pursuit of the interests of productive landscapes and the balance of protection and construction of wetland landscapes are also very complicated. There are both economic interests that have been paid more attention to in the development of traditional industries, as well as ecological benefits of wetland landscapes.

X. CONCLUSION

With the acceleration of the process of rural urbanization in China, the contradiction between urban, rural and natural has gradually intensified. The productive landscape with both output and landscape benefits is the effective solution to this contradiction. More and more scholars and experts study the productive landscape. When constructing a productive wetland park, the area with abundant natural wetland resources should be selected, and the special natural ecosystem of the area should be maintained and approached to the natural landscape state to maintain the ecological balance and coordinated development of different animal and plant species in the system. Consideration should be given too many factors such as ecology, tourism, agricultural industry and tourism. The planning and design of productive landscapes in wetland parks should follow the principles of local conditions, protection priority, low carbon cycle and scientific production. In the restoration of different types of wetlands, attention should be paid to the combination of ecology and production and utilization, the interaction of recreation space, and the importance of giving wetland landscape ecology, culture, education and other functions.

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